Missions for America

Semper vigilans!
Semper volans!

The Coastwatcher

Publication of the Thames River Composite Squadron
Connecticut Wing
Civil Air Patrol

300 Tower Rd., Groton, CT
http://ct075.org.

LtCol Stephen Rocketto, Editor
srocketto@aquilasys.com

C/SMSgt Michael Hollingsworth, Cadet Reporter
Lt David Meers & Maj Roy Bourque, Papparazis
Hap Rocketto, ,Feature Editor

Vol. IX Issue 9.24 09 Jun, 2015

SCHEDULE OF COMING EVENT

13 JUN-CTWG-SAR EVAL Prep-LISP
14 JUN-Cadet Competition-LISP
16 JUN-TRCS Meeting-Cadet Promotions
23 JUN-TRCS Meeting-PT-DDR-Aerospace
25 JUN-Orientation Flights
30 JUN-Mitchell Ceremony-TRCS Picnic

11-12 JUL-Vietnam 50th-103rd Airlift Wing-BDL
18 JUL-SAR EVAL Prep
25 JUL-CTWG Fly-in and Conference-HFD

01-08 AUG-CTWG Encampment
08 AUG-SAR EVAL Prep
19 AUG-National Aviation Day
21-23 AUG-CTWG/USAF Evaluation
26-29 AUG-CAP National Conference

12 SEP-Cadet Ball-USCGA

CADET MEETING MINUTES

09 June, 2015
Submitted by
C/SMSgt Daniel Hollingsworth

Cadets finished restoring Cadet trailer to operaing condition by replacing furniture. Pizza, contributed by Lt Col deAndrade was served to both Cadets and Officers.

NEW FLOOR LAID

After two weekends and two meetings and the sweat of some dedicated Squadron members, the new floor is in place in the Cadet trailer.

Lt Frank Crandall spearheaded the operation and contributed his organizational and manual skills to lead 16 officers and cadets in a major renovation of our quarters.

Cadet contributors are Daniel Hollingsworth, Colin Sitz, Alec deAndrade, Ryan Schantz, Michael Hollingsworth, and Austin Eichelberg.

The Officer work crew consisted of Crandall, Maj Roy Bourque, Lt John Meers, Lt Col Larry Kinch, Maj Scott Farley, Lt Col Richard Doucette, Lt Col Tom Wisehart, SM Carrie Drost, Lt Joel Drost, and Lt Susan Poe.

Integrity

June 2015

SUN	MON	TUE	WED	THU	FRI	SAT
	1	2	3	4	5	6
7	8	9	10	11	12	13
		CDR CALL				Tranex LISP
14	15	16	17	18	19	20
LISP Cadet		HLS		O/F		
21	22	23	24	25	26	27
				O/F		
28	29	30				
		Picnic				

2 Senior: Planning — Cadet: Planning

9 Senior — CDR Call — Cadet: Organize trailers

13 LISP — **13** Tranex HFD — **14** LISP — **14** Cadet Competition

16 Senior — HLS Picture — Cadet: Character Dev, Leadership, Promotions

18 O-Flight

23 Senior — Cadet Fitness, Safety, DDR, Aerospace

25 O-Flight — **27** EX in west group

30 Squadron Picnic

Volunteer Service

July 2015

SUN	MON	TUE	WED	THU	FRI	SAT
			1	2	3	4
				O/F		
5	6	7	8	9	10	11
				O/F		Viet LISP
12	13	14	15	16	17	18
Viet LISP		CDR CALL		O/F		SAR prep
19	20	21	22	23	24	25
				O/F		Wing
26	27	28	29	30	31	
				O/F		

2 O-Flight

7 Senior: Planning — Cadet: Planning

9 O-Flight — **11-12** VietNam 50th BDL — **11** LISP — **12** LISP

14 Senior — CDR Call — Cadet: Caracter Dev, Leadership

16 O-Flight — **18** SAR Eval Prep

21 Senior — Cadet: Fitness

23 O-Flight — **25** **CT Wing Conference Fly-In**

28 Senior — Cadet: Aerospace, Rocketry

30 O-Flight

Excellence

August 2015

SUN	MON	TUE	WED	THU	FRI	SAT
						1
						LISP
2	3	4	5	6	7	8
LISP				O/F		O/F SAR Prep
9	10	11	12	13	14	15
		CDR CALL		O/F		GT
16	17	18	19	20	21	22
			Aviation	O/F	Eval	Eval LISP
23	24	25	26	27	28	29
Eval LISP			Nat'l	O/F Nat'l	Nat'l	Nat'l
30	31					

1 - 8 CT Wing ENCAMPMENT — **1** LISP — **2** LISP

4 Senior: Planning — Cadet: No meeting

6 O-Flight — **8** SAR Eval Prep — **8** O-flight

11 Senior — CDR CAll — Cadet: Character Dev, Encampment Report, NCSA

13 O-Flight — **16** HLS Picture

18 Senior — Cadet Fitness, Safety, DDR

19 Groton Aviation Day — **20** O-Flight — **21-23** CT Wing USAF Evaluation — **22** LISP — **23** LISP

25 Senior — Cadet Aerospace, Rocketry

26 - 29 CAP Nat'l Conference — **27** O-Flight

Respect

September 2015

SUN	MON	TUE	WED	THU	FRI	SAT
		1	2	3	4	5
				O/F		
6	7	8	9	10	11	12
		CDR CALL		O/F		LISP
13	14	15	16	17	18	19
LISP				O/F		
20	21	22	23	24	25	26
				O/F		
27	28	29	30			

1 Senior: Planning — Cadet: Planning

8 Senior — CDR Call — Cadet: Character Dev

12 LISP — **13** LISP

15 Senior — Cadet: Fitness

22 Senior — Cadet Rocketry

29 Senior — Cadet

Other | Gound | Tranex | O Flight | Meeting

This schedule is not a replacement for good communications.

KUDOS

C/2dLt Keith Trotochaud completed the requirement of Introductory Communications User Training and FEMA IS.100 Introduction to the Emergency Management System.

Lt Col Stephn Rocketto completed the requirments for FEMA IS.300 Intermediate ICS for Expanding Incidents.

SENIOR MEETING MINUTES

Commander's Call
09 June, 2015

Lt Col deAndrade briefed the Officers on the importance of the new schedule and the new phone tree.

Lt Col deAndrade also encouraged the Squadron to exert a maximum effort to support the 50th anniversary of the Vietnam War with our attendence and our work contribution. The event will be held at the 103rd Airlift Wing base at Bradley.

Maj Noniewicz spoke about the importance of being familiar with the position of the important controls and switches in an aircraft. This skill can be important if power is lost at night. Lt Col Dolan also pointed out that gauges which use green bands to indicate normal operation should be studied so that a pilot knows where "in the green" is normal. A deviation from a normal in the green position may be a warning of impending trouble.

The finance report issued by Maj Lintelmann indicates a sound fiscal status.

Lt Col Kinch reported that ten Homeland Secuirty ribbons have been approved for Offices who participated in at least ten Long Island Sound Patrols. Lt Col Rocketto notified the recipients to report in flight suits to the aircraft next Tuesday at 1830 for photographs which will be used for publicity purposes.

Rocketto reported on the high points of the last Eastern Group meeting. The Wing is tracking a number of metrics which reflect a squadron's activity. These include promotions, Yeager awards, progress towards Squadron of Merit honors, orientation flights, AEX and STEM program participation, and professional development of officers.

Scanner and ICUT training was offered.

CTWG FLY-IN AND CONFERENCE

Join the Connecticut Wing Commander, Colonel Ken Chapman, for a fun filled day of food, awards and comradery at the First Annual Connecticut Wing Fly-In and Conference. Families and guests are welcome. The uniform for the day is: BDU's, Flight Suit, Blue Polo or equivalent

Accommodations for up to 25 aircraft have been arranged. Aircraft reservations are "first-come, first served". The primary date is Saturday, July 25 with a backup weather date of Sunday, July 26. If both dates are not suitable for VFR flights, the best weather date will be chosen. We have access to indoor facilities if needed so the conference will occur that weekend regardless. Updates on the weather decision can be found on the face-book page facebook.com/CTWGCAP or the wing website at *www.ctwg.*cap.*gov*

Highlights:

Lunch included -- catered by Wings
Cadet Activities
"Of the Year" Award Presentations
CAC, Encampment, Communications and Pilots meetings

The "early bird" registration ends on 20 June. The early bird price is $23 which includes lunch. CTWG will pay the fee for CTWG aircraft

AEROSPACE CURRENT EVENTS

Sikorsky Lay-Offs

The industry grapevine has been buzzing over the possible sale or disvestiture of Sikorsky Aircraft by United Technology Corporation. Helicopter sales have been suffering due to a decline in oil prices. The off-shore oil industry is a heavy user of helicopters and have cut back purchasing. Recently, Sikorsky lost out to Airbus for a contract to supply Poland'smilitary with a new helicopter. The Airbus H225M Caracal has been chosen over variants of the S-70 Blackhawk.

Caracel in Flight (Photo Credit: Airbus)

Sikorsky announced that about 1,400 jobs will be cut in Connecticut, Poland, and Pennsylvania. Small facilities will be consolidated with the larger production units. In Connecticut, the Bridgeport factory work will be transferred to the main plant in Stratford.

AEROSPACE HISTORY

AIR CARGO
Part III

A Photo Essay
by
Stephen Rocketto

The preceding two parts of this essay covered piston and turbine powered aircraft. This final piece will take a look at some of the special purpose giants, aircraft which did not make the cut.

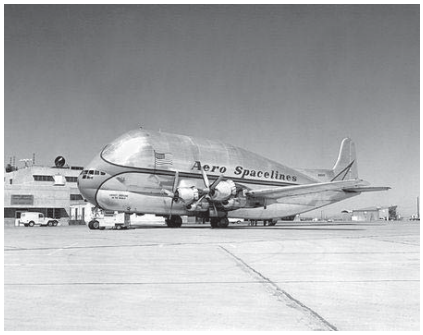
The Giants

From time to time, large cargo aircraft are used to transport bulky loads. The USAF bought the Lockheed C-133 Cargomaster as a strategic airlifter and used it totransport intercontinental ballistic missiles. NASA modified some Boeing 747 passenger liners to move the Space Shuttle from landing in California back to Kennedy Space Flight Center. But as big as these aircraft are, they cannot compare to so specially built or modified very large aircraft.

A company named Aero Spacelines modified a number of Boeing 377 Stratocruisers, C-97 Stratofreighter and KC-97 Stratotanker aircraft, themselves off-shoots of the B-29 Superfortress. The stock C-97 has a wing span of 140 and a length of 110 feet. Power was supplied by four Pratt and Whitney Wasp Major radial engines capable of 3,500 hp each.

Modifications added 20 feet to the length and greatly enlarged the fuselage diameter. The empennage was detachable to allow easy loading of large diameter objects

The project was the idea of John Conroy who noted NASA used barges to ship large spacecraft components from the manufacturers to Florida. He perceieved that swift air transport was a marketable commondity and constructed the first “Guppy” aircraft, known as the Pregnant Guppy. mortgaging his house to finance the project.



Pregnant Guppy (Photo Credit: NASA-DFRC)

The first flights moved sections of the Gemini launch vehicles and the Pregnant Guppy continued to serve NASA for 15 years until

scrapped.

The Mini Guppy attached the C-97 wings and tail to a new fuselage resulting in a wider body.

Mini Guppy at the Tillamook Air Museum

The burgeoning space program created a demand for more very large cargo planes. Conroy used components of C-97s to construct one Super Guppy. The SG had an upper fuselage diameter of 25 feet with a cargo compartment just short of 100 feet. The piston engines were replaced with water injcted P&W T-34 turboprops producing 7,000 hp each.

Four more aircraft were produced and called the Super Guppy Turbine. The fuselage of the SGT was was not a modified C-97 but was scratch built and larger thant the SG. The Pratt engines were replaced with Allison 501 turboprops capable of producing 4,700 hp apiece. The SGT has a swing nose to facilitate cargo loading.

NASA's Turbine Powered Super Guppy

"Guppies" were used by Airbus to transport aircraft components . Airbus is an international conglomerate with partners in France, Germany, Spain, and Great Britain and they used "Guppies" to move large aircraft components to their assembly plants. Maintenance costs with the aging fleet and a need for increased capacity led Airbus to design and built and aircraft officially named the Super Transporter but popularly called the Beluga.

Airbus Beluga A330-600ST (*Credit: Laurenet ERRera from L'Union,* France)

The Beluga is powered by two General Electric CF-6 trubofan engines which produce around 70,000 pounds of thrust each. Somewhat limited in volume, the Beluga cannot carry the large A350 and A380 components and Airbus plans on flying the first replacment aircraft in 2019.

Beluga Loading Hatch
(*Photo Credit:Tieflieger)*

The Soviets built the Antonov AN-225 Mriya which is the longest, heaviest aircraft ever built. Only one was built and it was designed to support the Soviet space flight program. Six ZMKB turbofans produce 52,000 pounds of thrust to lift a maximum take-off weight of 1.4 million pounds.

The might Mriya transporting the Buran.

Antonov Airlines, a Ukrainian company, now flies the Mriya on charter and ironically, many of these missions support the U.S. military. Its first commercial flight carried almost 200 tons of "meals-ready-to eat" from Germany to Oman to feed our troops in the region.

Only one Mriya flies but it holds numerous airlift records including the heaviest payload and the longest payload delivered. It also served to carry *Buran*, the Soviet "space shuttle."

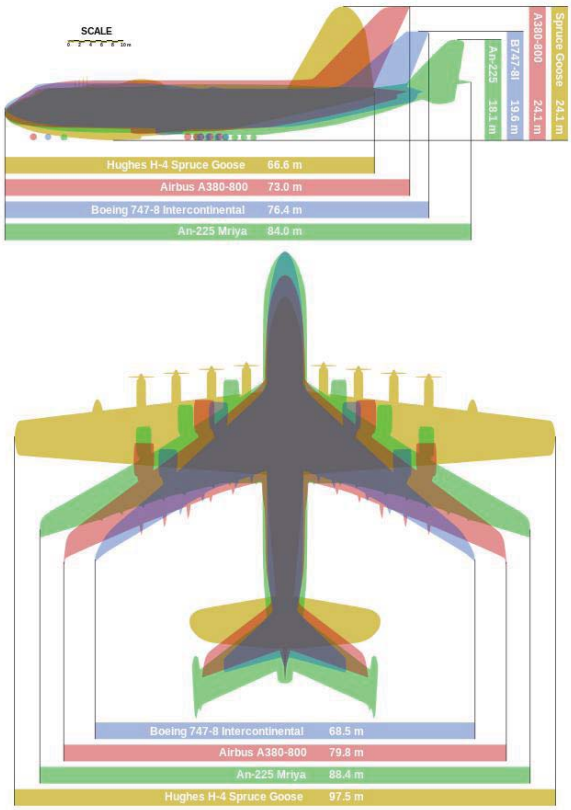
The newest giant to arrive is the Boeing 747 Dreamlifter. The aircraft is used to move Boeing 787 sub-assemblies from plants scattered all over the world to assembly plants in Washington and South Carolina.

A Dreamlifter and its Swinging Tail

The Dreamlifter is made from the Boeing 747-400 and the organizations involved deserve mentioning. Boeing's Moscow Bureau, Boeing Rocketdyne, and Spain's Gamesa Aeronáutica did the original design work and the modifications were done in Taiwan by Evergreen Aviation Technologies Corporation.

The Dreamlifter has a swing tail and the four aircraft have various turbofans: Pratt & Whitney, General Electic, or Roll-Royce depending upon the source of the original airframe. The cargo hold has four times the volume of an ordinary 747!

The following diagram is a comparison of four of the giants: Hughes H-4 (yellow), Airbus 380 (red), Boeing 747-8 (blue) and An0225 (green).



(Credit: Clem Tiller/Clem AT tillier.net)

The next diagram is an exhibit at the Dover AFB Air Mobility Command Museum. The length and width of selected USAF cargo aircraft are outlined in full scale on the concrete. The photographer is standing at the start of the display. The first Cadet is standing at the end of the outline for the Waco CG-4A glider. The last Cadet is standing at the end of the Lockheed C-5A, the outline of which forms the outer perimeter of the exhibit.

Might Have Beens

A number of interesting aircraft were seen to have potential as cargo planes but they never entered service. To be accepted, an aircraft has to fit into a niche based upon acquisition price, performance, and need. The availabilty of cheap war surplus aircraft or modified passenger planes trumped some of the postwar designs. Technological advances led to planes which could deliver equal or better performance. And the cyclical nature of the air transport industry did little to support the enthusiasm for capital risk.

One "Giant" which did not make the cut and failed to enter commercial service was the Hughes H-4 Hercules, a World War II project. The Hercules was a flying boat, originally designated HK-1 for Hughes-Kaiser. Henry Kaiser conceived the idea of a trans-oceanic aircraft aircraft which could carry tremendous loads and avoid the dangers posed by German submarines. Frustration with shortages of materials and working with the eccentric Howard Hughes led Kaiser to withdraw and the aircraft designation became H-4.

The H-4 on display in McMinnville, Oregon

The aircraft was fashioned from non-strategic materials, a birch/resin plywood called Duramold and fabric covered control surfaces. Eight Pratt and Whitney Wasp Major engines, each conributing 3,000 hp and a 320 foot wing provided lift!

The Hercules was transported from San Diego to Oregon by barge where it was reconstructed. What you see above is not the wing. It is one of the ailerons!)

The H-4 only made one flight, a short flight, about a mile at 70 feet, and this occurred two years after the war ended. The delay in the flight and questions about other aspects of Hughes's aviation enterprises resulted in a Senate hearing. Hughes survived the near scandal and continued his eccentric ways and prosper. The H-4 survived and after years of storage and display in southern

California, has found a home in McMinville, Oregon.

One of the most unique designs is the Burnelli CBY-3 Loadmaster. Vincent Burnelli was an innovative designer who promoted the concept of a lifting body airfoil in which the fuselage itself provided a considerable amount of lift. A conspiracy theory, which will be covered in another *Coastwatcher* feature, has been forwarded to explain why this design was not adopted by the USAAF.

This wind tunnel model of the BCY-3 displays its unconventional fuselage.
(Credit: MarquetteSoufflerie)

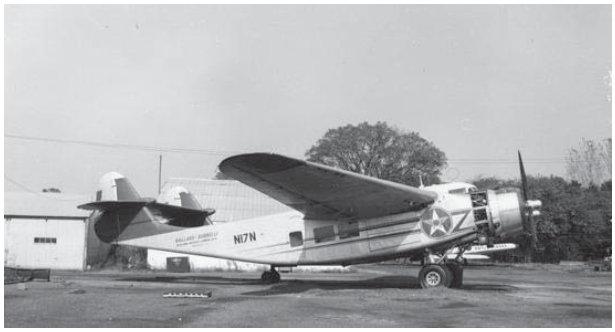
Two other interesting characters were involved, Lowell Yerex and Chalmers "Slick" Goodlin.

CBY stands for Canadian Car and Foundry, the builders, and Burnelli, and Yerex designer and partner.

Yerex was a New Zealander who was educated in the United States and died in Argentina. One of the great entrepreuners of pre-World War Two commercial aviation, he founded a number of Central and South American companies.

Slick Goodlin joined the Royal Canadian Air Force before the United States entered the war. He was posted to Europe but recalled by the USN and eventually ended up as test pilot at Bell Aircraft where he was the first man to fly the X-1 under power. Goodlin then flew for the Israeli Air Force in the 1947 War and afterwards became involved in a number of aviation ventures.

Eventually, he became Chairman of the Burnelli Company and promoted the lifting body fuselage.



A Loadmaster bearing an "N" registration number
(Photo Credit: San Diego A&S Museum)

The CBY-3 at the New England Air Museum is the only surviving Loadmaster. It was flown back from South Ameican by Goodlin and is under restoration.

The Loadmaster at NEAM before the start of restoration.

When World War II ending, most military contracts were cancelled and the aircraft industry, with vast production capabilites, desparately searched for a new market. Convair, a merger of Consolidated and Vultee, sought to modify its PB4Y-2 Privateer, itself a derivative of the B-24 Liberator, into a cargo plane. This allowed the use of tooling from the bombers which not only cut costs but shortened production time.

The CV 39 in American Airlines livery.
(Credit Larry Westin homepage)

The aircraft was designated as the CV-39 Liberator-Liner. Two were produced but rejected by the US Navy. American Airlines flew one of them for a short time moving fresh fruit from California to the east coast. The aircraft had lackluster performance compared to contemporary cargo craft. Both aircraft were scrapped in 1945.

Old timers will remember the Buddliners which plied the rails of the New York, New Haven, and Hartford Railroad. They were self-propelled pasenger cars were made of stainless steel. The New Haven Railroad called thed "Shoreliners" and the 40 which they purchased were responsible for transporting over half of all of the passengers carried. One may be found at the Danbury Railroad Museum.

But Budd also produced aircraft and in stainless steel, no less. Steel was used to conserve the rarer aluminum. The fuselage and the leading edges of the wings were steel and fabric was used for the trailing edges and control surfaces. Twenty were built and served the Navy as the RB-1 Conestoga.

Stainless steel was not the only unique feature of the design. The flight deck was mounted high up allowing a 24 foot, 8X8 cargo compartment. Large doors were located on both sides of the fuselage. But a ramp located aft and the tricycle gear allowed easy loading of bulky loads and vehicles.

As it turns out, aluminum was not in as short supply as aluminum C-46 and C-47 aircraft wee favored over the ponderous and underpowered Conestoga.

An outfit called National Skyway Freight Corporation bought a dozen of them from the War Assets Administration at a knock-down price, sold four to cover the cost of the other eight and went into business. Several years later, the name was changed to Flying Tiger Airlines which lasted for 40 years before its sale to Federal Express.

A Flying Tigers Conestoga
(Crediet: flyingtigerlines.org)

Only one Conestoga survives and it sits in its unrestored condition at the Pima Air Museum in Tucson, Arizona.

Like the Loadmaster, the Conestoga sits sans tial and engines as it awaits its fate at the Pima Air Museum.

Convair, undismayed by the failure of the CV-39 came back with a giant, the XC-99, a development of the B-36 Peacemaker. Like its predecesor, the Liberator-Liner, it took the wings, the six Pratt Wasp Major engines, and the empennage of the B-36 and atttached them to a very large double-decked fuselage.

XC-99 in Flight (USAF Photo)

The sole aircraft produced flew cargo between Air Force bases for seven years but the Air Force determined that it had no need for such a large cargo plane and it was retired to Lackland/Kelly AFB where it sat for nearly half a century.

The XC-99 at Lackland

In 2004, pieces of the XC-99 were moved by Lockheed C-5A Galaxy to the National Museum of the USAF where it is now under restoration.

Trimoters have always been a popular design and successful examples abound: the Junkers 52, the Boeing 727, and the Dassault 900.

In the struggle to stay solvent at the end of WWII, Northrop Aviation developed the short take off and landing (STOL) trimotor known as the N-23 Pioneer. It could not compete commercially with the cheap surplus aircraft available but the USAF and designated as the YC-125 Raider.

The Raider at Pima Carrying Mexican (XB) Regisration

The plan was to use them as a utility transport in bush conditions, specifically the arctic in which the USAF had an increasing interest. Wright Cyclone engines provided the power and JATO units could be attached if needed. As is common, the aircraft was underpowered and removed from service and relegated to duty as maintenance trainers until sold as surplus. Only 23 were produced and most went to Central and South America where they found employment carrying cargo in and out of remote sites. Two survive, one at Pima bearing Mexican registry and one at the Air Force Museum carrying Arctic rescue colors.

Good (profitable) ideas die hard. Note the flood of cinema sequels to any box office hit. The Ford Trimotor is an aviation legend so why not follow it with a sequel? And they did, the Stout Bushmaster 2000. Bill Stout, a designer of the original Ford Trimotor bought the design rights in 1954.

The basic idea was to improve the original design using more powerful Pratt & Whitney engines, more modern metals and assembly techniques, and a larger empennage. The Ford has exterior control cables and the outboad engine instruments were mounted on the engine support strut. The Bushmaster did away with these features.

It took ten years but the new aircraft suffered in comparison to contemporary models and only two were built. The number one aircraft, the only survivor, used to fly supplies to villages on the Bering Strait in Alaska but is now in the Golden Wings Museum in Anoka, Minnesota.

"The Bush" is a Mecca for the designers and builders of rugged aircraft. The Fairchild (Canada) F-11 Husky had two disadvantages which led to its failure to achieve quantity production, It was, unsurprisingly, underpowered and it butted spinners with the deHavilland of Canada DHC-2 Beaver, a superb example of a bush plane and the capable Noorduyn Norseman.

A plan to make the Husky more marketable was to replace the 450 hp Wasp Jr. engines with 550 or 650 Alvis Lonides powerplants but the scheme never came to fruition and Fairchild (Caaada) went bankrupt.

Twelve were produced between 1946 and 1950. They were rugged and the ramp in the rear which supports easy cargo loadingis unusual in a single engine plane.

The high aspect ratio wing was equipped with slotted flaps for STOL performance.

A float mounted Husky in Sault Ste. Marie at the Canadian Bush Plane Heritage Museum.

A dozen were produced and they found themselves working as cargo and passenger haulers in the Canadian hinterlands. But the superior Beavers, Otters, and Norsemen proved themselves superior. Half of them flew with Nickel Belt Airways which eventually bought the tooling and rights to the Husky.

Two of them are now on display in the Canadian Bushplane Heritage Center and the Western Canada Aviation Museum.

The aircraft convered in this article are all specialized or unique aircraft designed to full some niche in the air cargo business, outsized cargo or rough fields. Some succeeded admirably and some are now footnotes in aeronautical history.

The next edition will carry Part IV, Local Carriers: freight and air taxi lines in Connecticut and Rhode Island.